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D1L101 QUENCH SUMMARY

Magcool Bay E

QUENCH #	RUN #	CURRENT (A)	T(in) (K)	T(out) (K)	START (ms)	MIITS	COIL	COMMENTS
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T = 4.5K (nom)

warm bore tube sealed and evacuated

1	4	6127	4.624	4.688	-58	10.6	upper	(a)
2	5	6229	4.590	4.643	-31	9.2	lower	
3	6	6295	4.544	4.597	-36	9.6	lower	
4	7	6305	4.529	4.596	-40	9.7	lower	
5	8	6314	4.547	4.602	-45	9.8	lower	

warm bore tube open

6	9	5321	4.569	4.636	-66	9.5	lower	
7	10	3851	4.690	4.766	-152	8.5	lower	

warm bore tube sealed and evacuated

8	11	6008	4.507	4.597	-51	9.8	lower	
9	12	6448	4.484	4.506	-46	9.9	lower	(a)

Thermal Cycle (warm bore tube removed)

	17	7000	4.518	4.563	made it to prescribed level; no quench			
	18	7000	4.526	4.557	5 power cycles to 7000; no quench			
10	19	7432	4.534	4.560	-36	9.8	upper	
11	20	7374	4.570	4.624	-38	9.7	upper	

Thermal Cycle (23 months since last test; retest to verify quench performance after quench protection heater short to coil; strip heaters not connected)

T = 4.5K (nom)

warm bore tube sealed and evacuated (WBT has been improved to minimize heat leaks)

12	35	6737	4.515	4.560	-22.0	9.8	upper
13	36	7107	4.467	4.517	-19.0	9.1	upper

Other tests (with WBT open):
 1 hour at 6400A no quench
 8 cycles to 6400A no quench

Notes:

- a) Ramp rate for quenches 2-8 and 10-11 was 20A/s. For quenches 1,12,13, the magnet stopped at 5000A for 1 min before continuing the ramp at 20A/s. For quench 9, the magnet stayed at 5500A while stray field measurements around the cryostat and power supply cables were made, then ramped to quench at 20A/s.
- b) There was a 1 hour or more wait between quenches.
- c) The temperature sensors recorded are diode sensors T9 at the helium input and T8 at the output. Both have associated redundant sensors.
- d) There were no auxiliary voltage taps in the magnet coils.
- e) Data acquisition sampling rate was 1kHz for all quenches.
- f) Strip heaters were fired at 100V (nom) and 108ms.